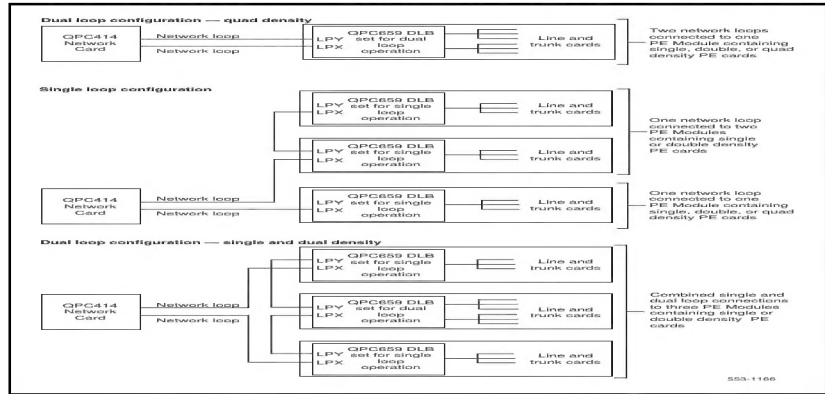

Cabling network loops

In Options 81 and 81C, the columns can be configured as a single row or multiple rows (see [Figure 106](#)):

- For superloops: NT8D04 Superloop Network Cards and associated NT8D01 Controller Cards
 - If the columns containing the network and controller cards are in the same row, the network loop is cabled from the faceplate of the network card to the backplane for the controller card.
 - If the columns containing the network and controller cards are in different rows, the cards require I/O panel connections, and a shielded cable connects the network card I/O panel to the controller card I/O panel.
- For regular loops: QPC414 Network Cards and associated QPC659 Dual Loop Peripheral Buffer (DLB) Cards
 - If the columns containing the network and DLB cards are in the same row, the network loop is cabled from the faceplate of the network card to the faceplate of the DLB card.
 - If the columns containing the network and DLB cards are in different rows, the cards require I/O panel connections, and a shielded cable connects the network card I/O panel to the DLB card I/O panel.

Figure 106
Options 81 and 81C configuration: multiple rows of columns (top view)



NT8D04 Superloop Network Card

Depending on whether your system is configured as a single row of columns or double row of columns, proceed with “Basic cabling for single-row network connections,” below, or [“Basic cabling for multiple-row network connections” on page 195.](#)

CAUTION

Due to the possibility of EMI/RFI noise, do not route cables from front to rear next to the power supply unit.

Basic cabling for single-row network connections

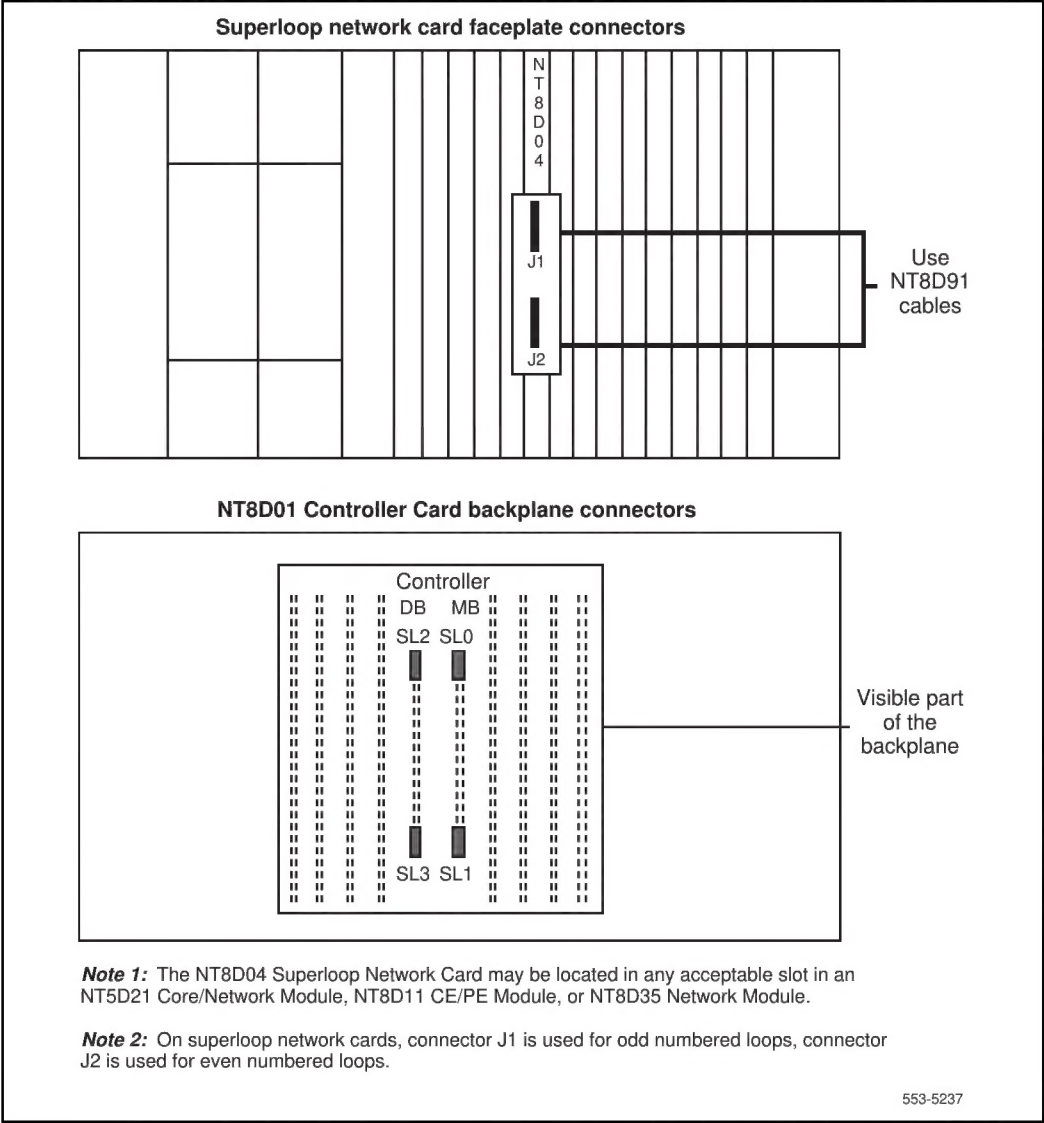
- 1 Refer to the work order and the cabling layout shipped with the system to determine
 - each loop number assigned
 - the module and slot assignments for the NT8D04 Superloop Network Card associated with each loop
 - the location of NT8D37 IPE Modules that contain NT8D01 Controller Cards associated with each loop

- 2 Set the Enb/Dis switch on each superloop network card to Dis.
 - 3 Cable network loops from the faceplate connector on the superloop network card to the backplane for associated controller cards (see [Table 25](#)).
 - Label both ends of an NT8D91 cable with the loop number, then connect one end of the cable to the superloop network card faceplate connector:

J1 for shelf 1

J2 for shelf 0
 - On the backplane for the controller card, connect the cable to the SL0, SL1, SL2, or SL3 connector assigned to the loop.
- Note:** The key (polarizing tab) on the side of the cable connector must be inserted into the keyway on the left side, facing the backplane, of the backplane connector. Blue and white wires should show through the top of the cable connector and, if there is a directional label, the arrow on the cable connector should be located at the top right.
- [Figure 107](#) shows the superloop network card faceplate connectors, the backplane connectors for the controller card, and the cables required.
- 4 Seat and secure all connectors.
 - 5 Set the Enb/Dis switch on each network card to Enb.
 - 6 During system software configuration, use the *X11 input/output guide* to enter loop assignments.

Figure 107
NT8D04 Superloop Network Card network loops—connectors for single-row connections



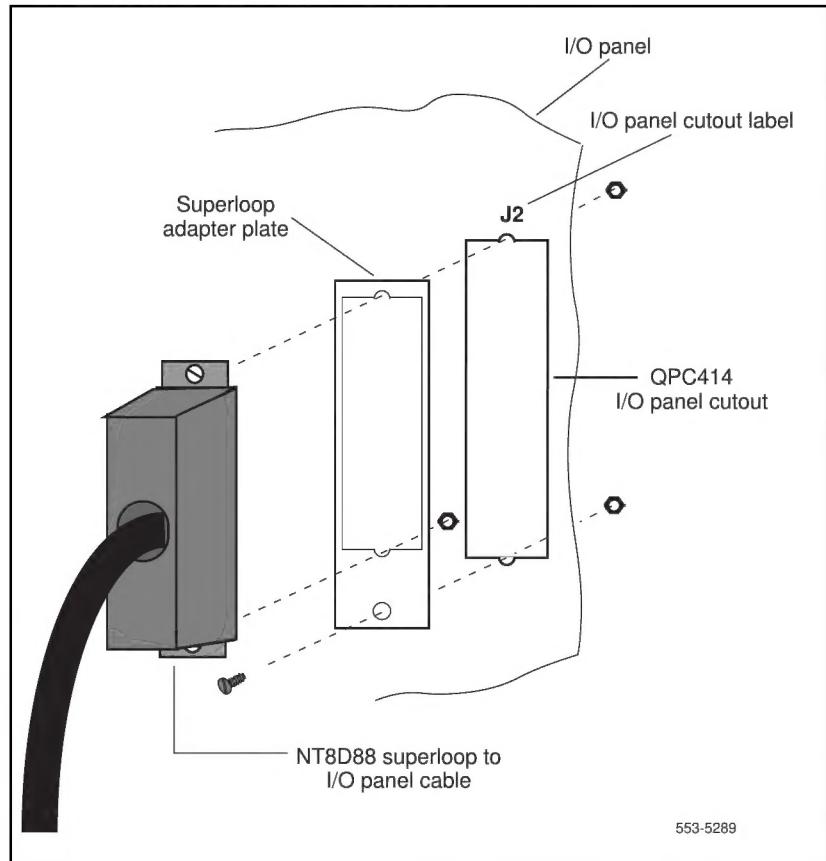
Basic cabling for multiple-row network connections

- 1** Refer to the work order and the cabling layout shipped with the system to determine
 - each loop number assigned
 - the module and slot assignments of the NT8D04 Superloop Network Card associated with each loop
 - the location of NT8D37 IPE Modules that contain NT8D01 Controller Cards associated with each loop
- 2** Set the Enb/Dis switch on the faceplate of each network card to Dis.
- 3** Install NT8D1107 Superloop Adapter Plates on universal I/O panels (P0715058), if required. The superloop adapter plate reduces a QPC414 network loop cutout to the size for a superloop connection.

The recommended order for installing superloop adapter plates is over I/O panel locations J2, J6, J10, J22, J26, J31.

- Position the adapter plate over the QPC414 cutout and install the screw and washer at the bottom of the plate.
- Position the cable connector on the adapter plate and install one screw and washer at the top and one screw and washer at the bottom of the connector.
- [Figure 108](#) shows mounting details for the superloop adapter plate.

Figure 108
Installing a superloop adapter plate



- 4 Cable network loops from the faceplate connector on the network card to the I/O panels on the rear of the Core/Net or Network Module.
 - Label both ends of an NT8D88AD cable with the loop number, then connect one end of the cable to the network card faceplate connector:
 - J1 for shelf 1
 - J2 for shelf 0
 - Route the cable around the card cage to the I/O panel and mount the cable connector in one of the cutouts in the panel.

the recommended order for connections is J16, J17, J37, J38, then, with superloop adapter plates, J2, J6, J10, J22, J26, J31
 - [Figure 109](#) shows the network card faceplate connectors, the I/O panel connectors, and the cables required.
- 5 Cable the backplane connectors (SL0, SL1, SL2, SL3) for the controller card to the I/O panels on the rear of the IPE Module.
 - Label both ends of an NT8D92 cable with the loop number, then connect one end of the cable to the backplane connector.
 - Mount the connector on the other end of the cable in one of the cutouts in the I/O panels. The recommended order for connections is:
 - SL0 to J2
 - SL1 to J3
 - SL2 to J4
 - SL3 to J5
 - [Figure 110](#) shows the controller card backplane connectors and the I/O panels for the IPE Module.
- 6 Complete the network loop connection (see [Table 25](#)).
 - Connect one end of an NT8D98 cable to the I/O panel connector for the network card.
 - Connect the other end of the cable to the I/O panel connector for the associated controller card.

Figure 109
NT8D04 Superloop Network Card network loops—network card to I/O panel connections

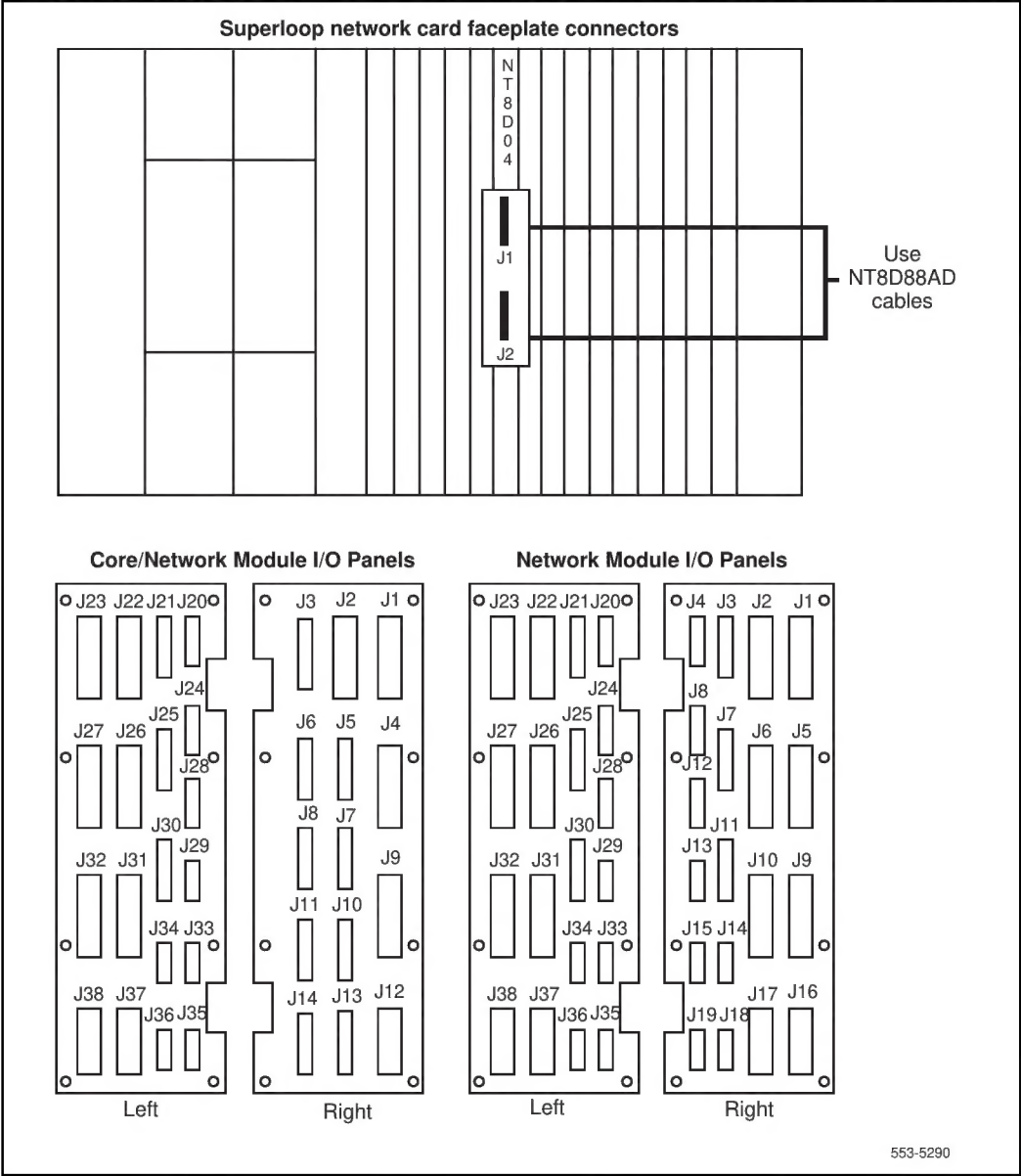
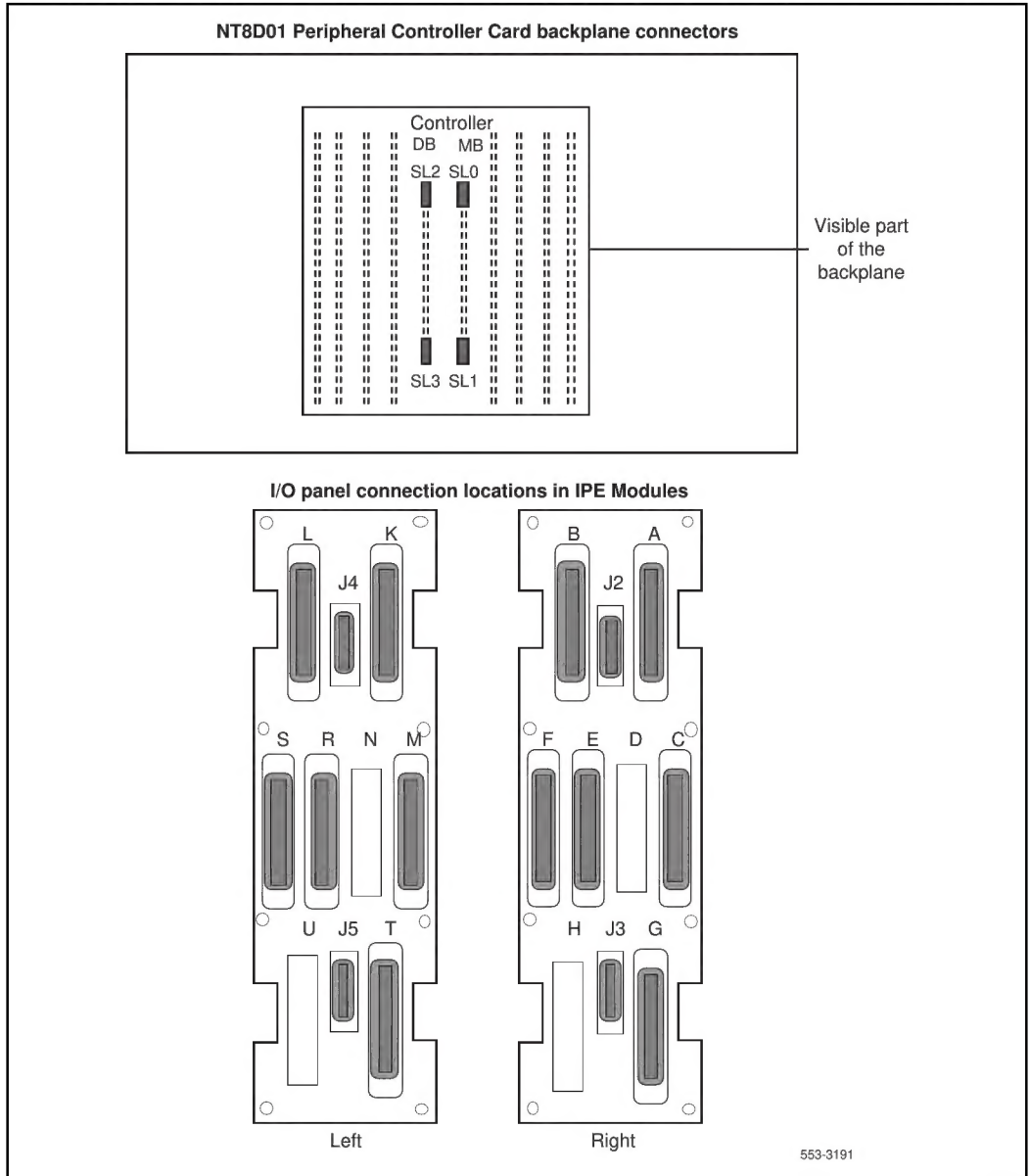


Figure 110
NT8D04 Superloop Network Card network loops—controller card to I/O panel connections



- 7 Seat and secure all connectors.
- 8 Set the Enb/Dis switch on each network card to Enb.
- 9 During system software configuration, use the *X11 input/output guide* to enter loop assignments.

Table 25
NT8D04 network loop configurations

	FROM		TO	
	Superloop network card	Faceplate connector	Controller card	Backplane connector
One segment per superloop	NT8D04 #1	J2	NT8D01AC #1	SL0
	NT8D04 #2	J2	NT8D01AC #1	SL1
	NT8D04 #3	J2	NT8D01AC #1	SL2
	NT8D04 #4	J2	NT8D01AC #1	SL3
Two segments per superloop	NT8D04 #1	J2	NT8D01AD #1	SL0
	NT8D04 #2	J2	NT8D01AD #1	SL1
Four segments per superloop	NT8D04 #1	J2	NT8D01AD #1	SL0
Eight segments per superloop	NT8D04 #1	J2	NT8D01AD #1	SL0
	NT8D04 #1	J1	NT8D01AD #2	SL0
One segment per superloop/three segments per another superloop	NT8D04 #1	J2	NT8D01AD #1	SL0
	NT8D04 #2	J2	NT8D01AD #1	SL1
Two segments per superloop/six segments per another superloop	NT8D04 #1	J2	NT8D01AC #1	SL0
	NT8D04 #2	J2	NT8D01AC #2	SL0
	NT8D04 #2	J1	NT8D01AC #2	SL1
Note: NT8D01AC is a controller-4 NT8D01AD is a controller-2				

QPC414 Network Card

Depending on whether your system is configured as a single row of columns or double row of columns, proceed with “Basic cabling for single-row network connections,” below, or [“Basic cabling for multiple-row network connections” on page 203.](#)

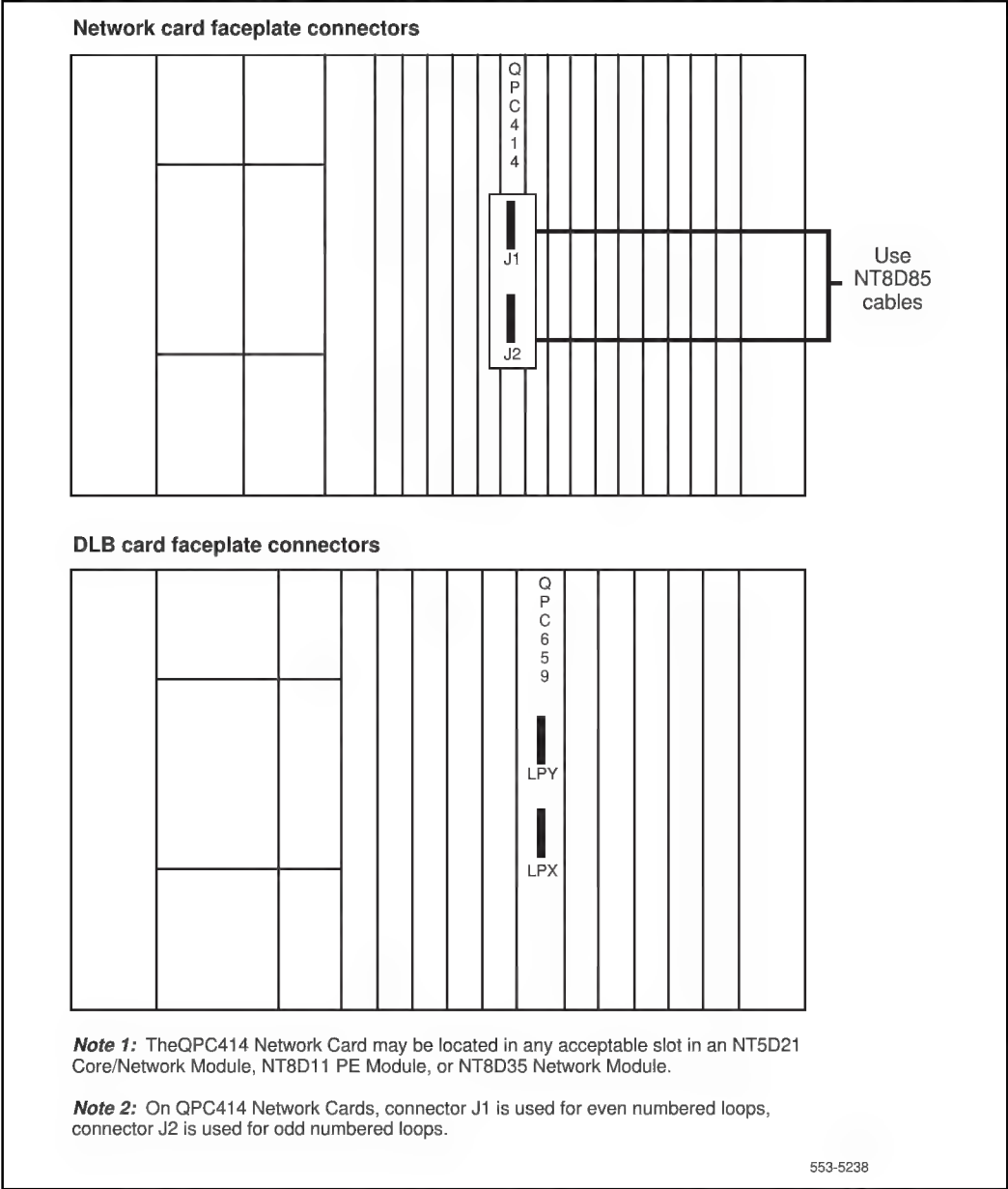
CAUTION

Due to the possibility of EMI/RFI noise, do not route cables from front to rear next to the power supply unit.

Basic cabling for single-row network connections

- 1 Refer to the work order and the cabling layout shipped with the system to determine
 - each loop number assigned
 - the module and slot assignments for the QPC414 Network Card associated with each loop
 - the location of NT8D13 PE Modules that contain QPC659 DLB Cards associated with each loop
- 2 Set the Enb/Dis switch on the faceplate of each network card to Dis.
- 3 Cable network loops from the faceplate connector on the network card to the faceplate connector on the associated DLB card.
 - Label both ends of an NT8D85 cable with the loop number, then connect one end of the cable to the network card faceplate connector:
 - J1 for shelf 0
 - J2 for shelf 1
 - On the DLB card, connect the cable to the LPX or LPY connector assigned to the loop.
 - [Figure 111](#) shows the network card and DLB card connectors and the cables required.
- 4 Seat and secure all connectors.

Figure 111
QPC414 Network Card network loops—connectors and cables for single-row connections



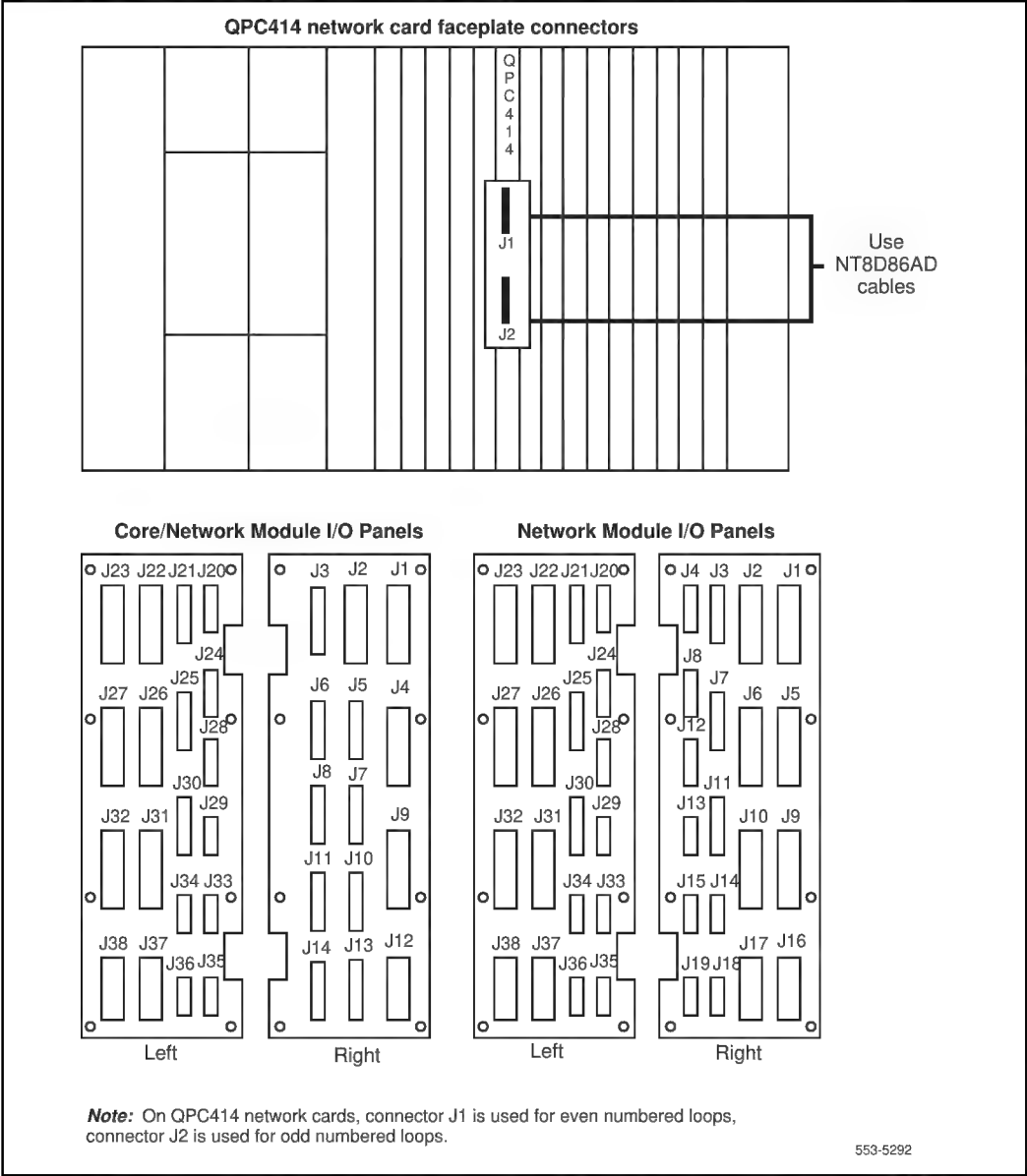
- 5 Set the Enb/Dis switch on each network card to Enb.
- 6 During system software configuration, use the *X11 input/output guide* to enter loop assignments.

Basic cabling for multiple-row network connections

- 1 Refer to the work order and the cabling layout shipped with the system to determine
 - each loop number assigned
 - the module and slot assignments of the QPC414 Network Card associated with each loop
 - the location of NT8D13 PE Modules that contain QPC659 DLB Cards associated with each loop
- 2 Set the Enb/Dis switch on the faceplate of each network card to Dis.
- 3 Cable network loops from the faceplate connector on the network card to the I/O panels on the rear of the Network Module.
 - Label both ends of an NT8D86AD cable with the loop number, then connect one end of the cable to the network card faceplate connector:
 - J1 for shelf 0
 - J2 for shelf 1
 - Route the cable around the card cage to the I/O panel and mount the cable connector in one of the cutouts in the panel.

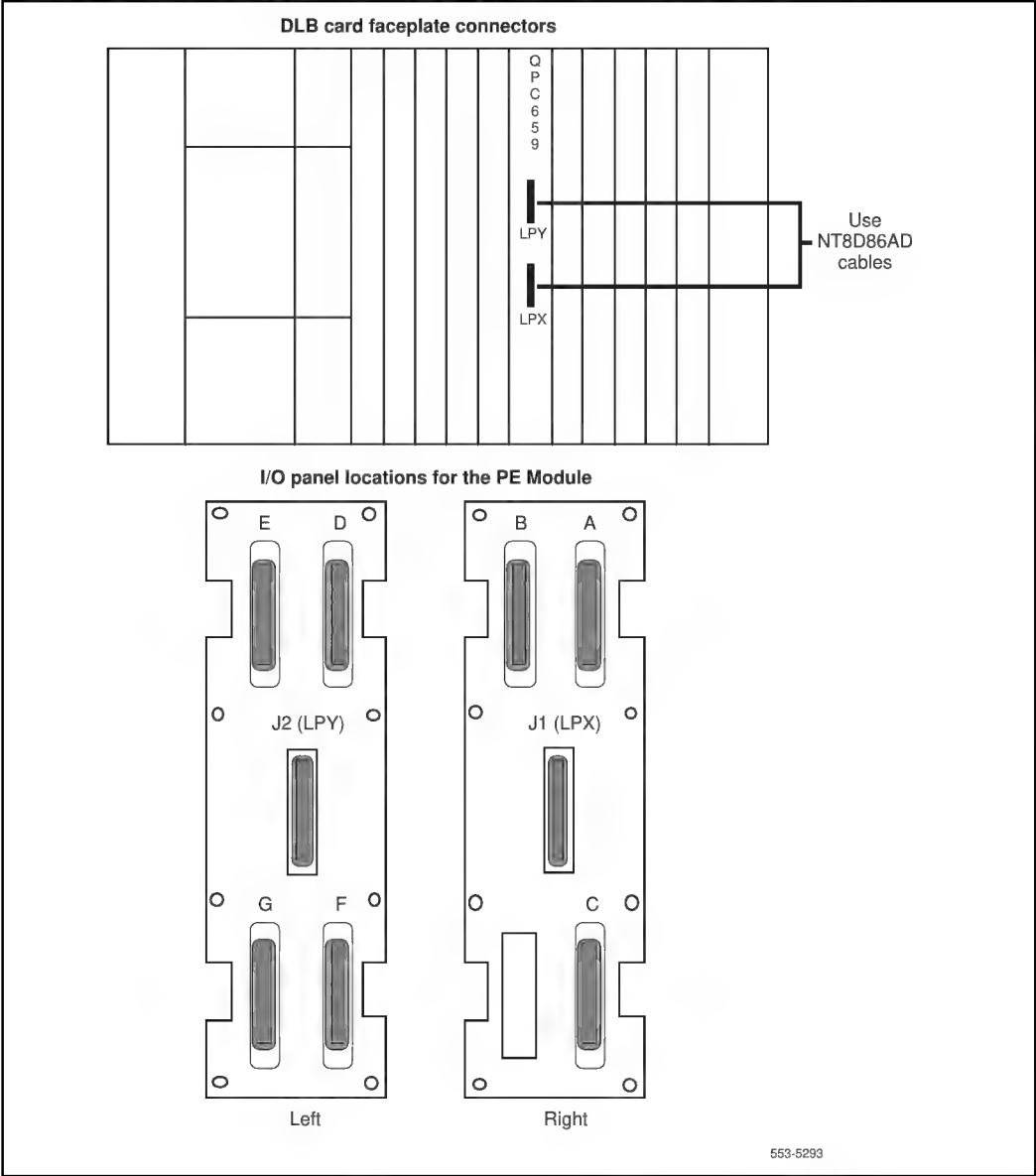
the recommended order for connections is J1, J2, J5, J6, J9, J10, J22, J23, J26, J27, J31, J32
 - [Figure 112](#) shows the network card faceplate connectors, the universal I/O panel connectors, and the cables required.

Figure 112
QPC414 Network Card network loops—network card to I/O panel connections



- 4 Cable the DLB card to the I/O panels on the rear of the PE Module.
 - Label both ends of an NT8D86AD cable with the loop number, then connect one end of the cable to the assigned LPX or LPY faceplate connector on the DLB card.
 - Mount the connector on the other end of the cable in one of the cutouts in the I/O panels:
LPX to J1
LPY to J2
 - [Figure 113](#) shows the DLB card connectors, the I/O panels for the PE Module, and the cables required.
- 5 Complete the network loop connection.
 - Connect one end of an NT8D73 cable to the I/O panel connector for the network card.
 - Connect the other end of the cable to the I/O panel connector for the associated DLB card.
- 6 Seat and secure all connectors.
- 7 Set the Enb/Dis switch on each network card to Enb.
- 8 During system software configuration, use the *X11 input/output guide* to enter loop assignments.

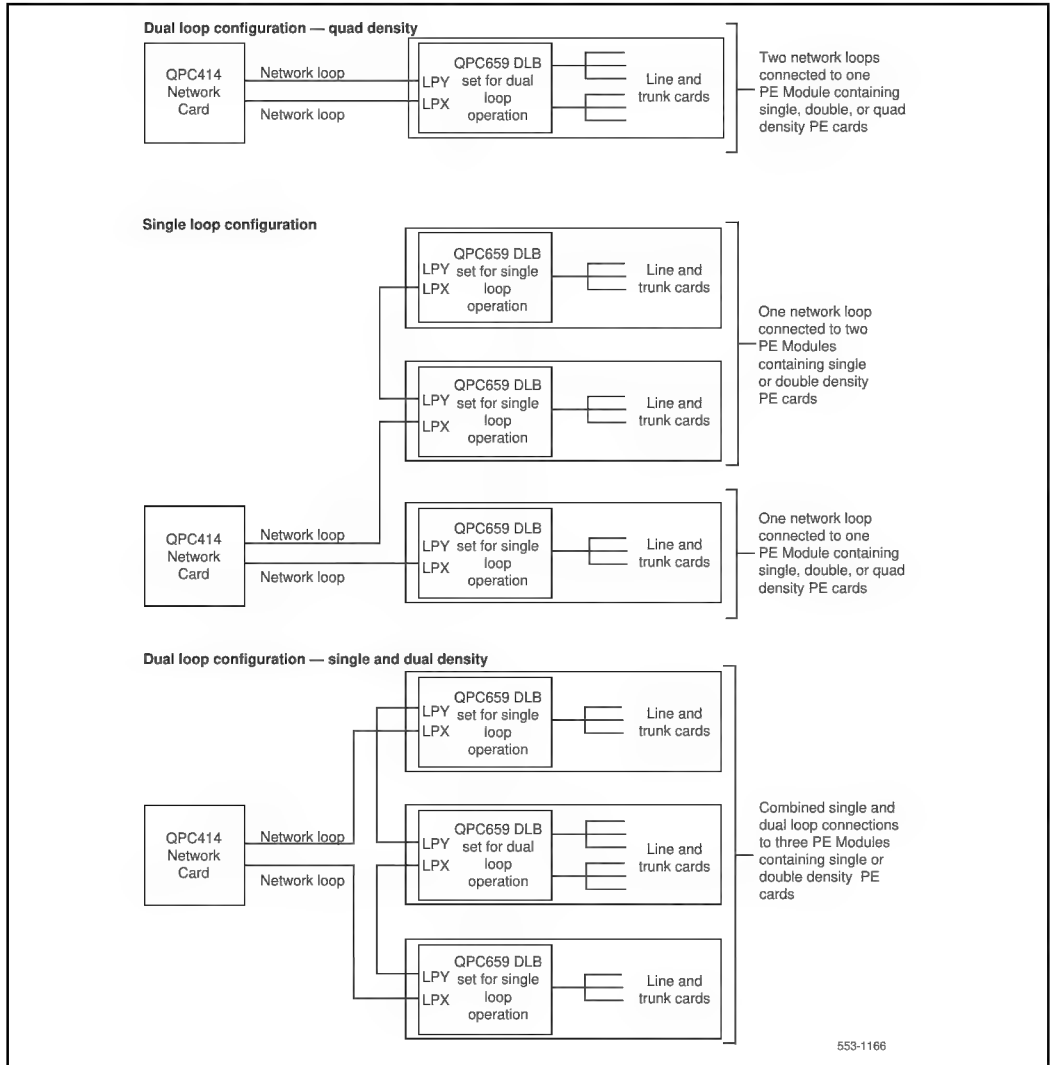
Figure 113
QPC414 Network Card network loops—DLB card to I/O panel connections



Network loop configurations

Figure 114 shows shelf configurations for single, dual, and quad density loops using the QPC414 Network Card.

Figure 114
QPC414 network loop configurations



QPC414 Network Card connected to an NT5K11 EEPE module

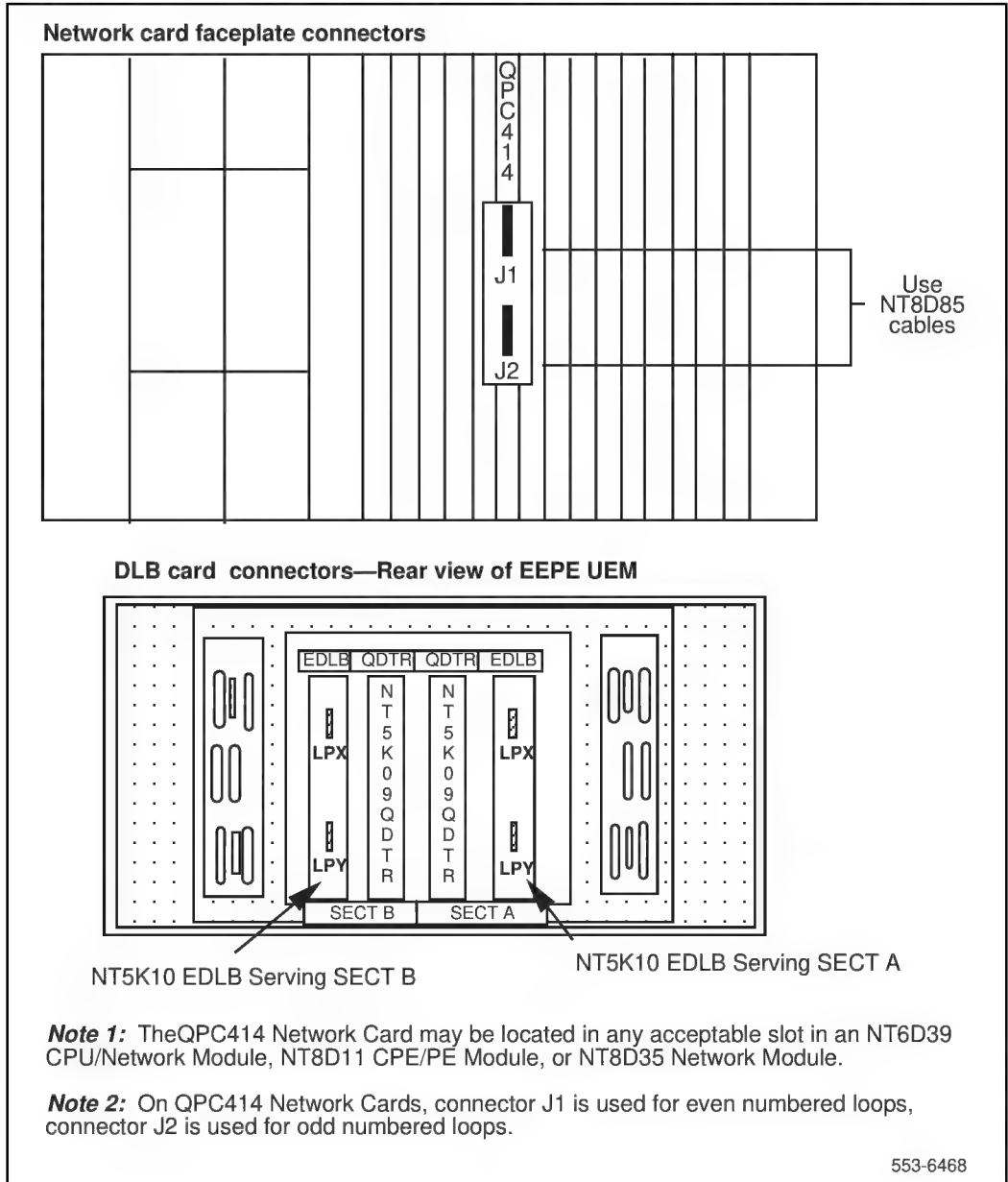
CAUTION

Due to the possibility of EMI/RFI noise, do not route cables from front to rear next to the power supply unit.

Basic cabling for single-row network connections

- 1 Refer to the work order and the cabling layout shipped with the system to determine:
 - each loop number assigned
 - the module and slot assignments for the QPC414 Network Card associated with each loop
 - the location of NT5K11 EEPE Modules which contain NT5K10 DLB Cards associated with each loop
- 2 Set the ENB/DIS switch on the faceplate of each network card to DIS.
- 3 Cable network loops from the faceplate connector on the network card to the faceplate connector on the associated DLB card.
 - Label both ends of an NT8D85 cable with the loop number, then connect one end of the cable to the network card faceplate connector:
 - J1 for an even numbered loop
 - J2 for an odd numbered loop
 - On the DLB card, connect the cable to the LPX or LPY connector assigned to the loop.
 - [Figure 115](#) shows the network card and DLB card connectors and the cables required.
- 4 Seat and secure all connectors.
- 5 Set the ENB/DIS switch on each network card to ENB.
- 6 During system software configuration, use the *X11 input/output guide* to enter loop assignments.

Figure 115
QPC414 Network Card network loops—connectors and cables for single-row connections



Basic cabling for multiple-row network connections

- 1 Refer to the work order and the cabling layout shipped with the system to determine:
 - each loop number assigned
 - the location (NT8D35 Network Module and slot assignments) of the QPC414 Network Card associated with each loop
 - the location of NT5K11 EEPE Modules which contain NT5K10 DLB Cards associated with each loop
- 2 Set the ENB/DIS switch on the faceplate of each network card to DIS.
- 3 Cable network loops from the faceplate connector on the network card to the I/O panels on the rear of the Network Module.
 - Label both ends of an NT8D86AD cable with the loop number, then connect one end of the cable to the network card faceplate connector:
 - J1 for an even numbered loop
 - J2 for an odd numbered loop
 - Route the cable around the card cage to the I/O panel and mount the cable connector in one of the cutouts in the panel.
 - with the universal I/O panel (P0715058), the recommended order for connections is J1, J2, J5, J6, J9, J10, J22, J23, J26, J27, J31, J32
 - with any other I/O panel, the recommended order for connections is J20, J17, J16, J2, J1, J4
 - **Figure 116** shows the network card faceplate connectors, the universal I/O panel connectors, and the cables required.

- 4 Cable the NT5K10 DLB card to the I/O panels on the NT5K11 EEPE Module.
 - Remove the backplane access plate from the rear of the NT5K11 EEPE module and set it aside.
 - Using an NT5K1110 cable, connect the JA1 connector on the NT5K11 I/O panel to connector LPY on the assigned NT5K10 DLB card in shelf section A. Similarly, connect JA2 on the I/O panel to connector LPX on the NT5K10 DLB card.
 - Repeat for section B of the shelf:
 - JB1 on the I/O panel connects to LPY on NT5K10
 - JB2 on the I/O panel connects to LPX on NT5K10
 - [Figure 117](#) shows the NT5K10 DLB card connectors and the I/O panels for the NT5K11 EEPE Module. [Figure 118](#) shows the NT5K11 I/O panel in detail.
- 5 Complete the network loop connection.
 - Connect one end of an NT8D73 cable to the I/O panel connector for the network card.
 - Connect the other end of the cable to the I/O panel connector for the associated DLB card.
- 6 Seat and secure all connectors.
- 7 Set the ENB/DIS switch on each network card to ENB.
- 8 During system software configuration, use the *X11 input/output guide* to enter loop assignments.

Figure 116
QPC414 Network Card network loops—network card to I/O panel connections

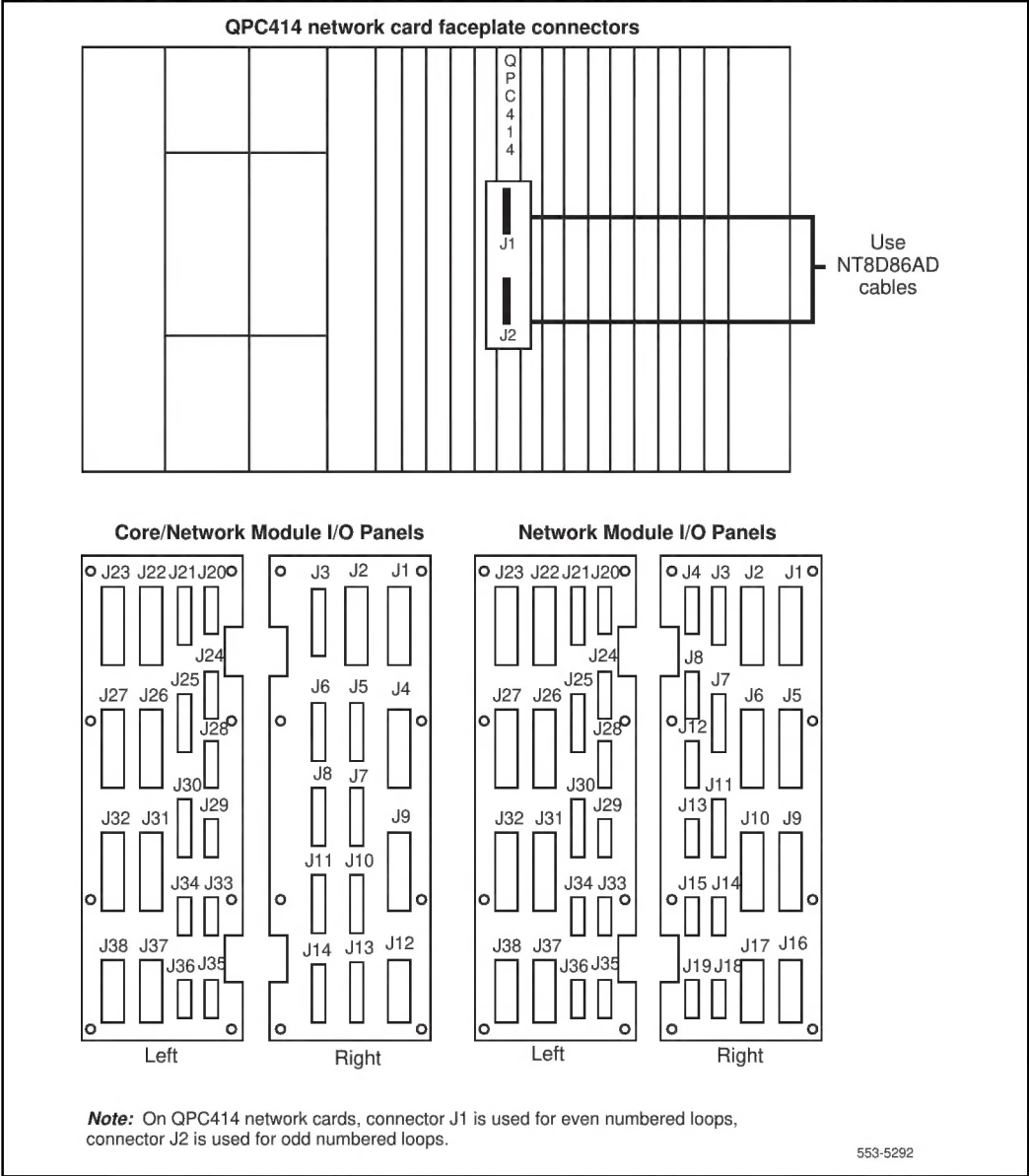


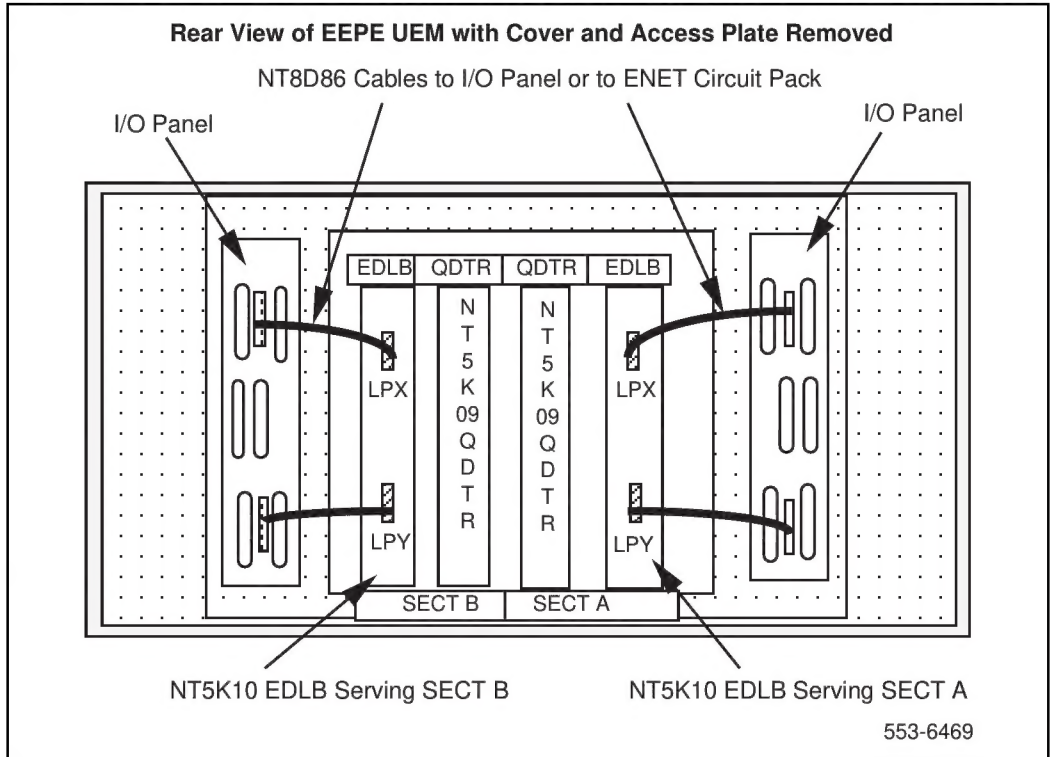
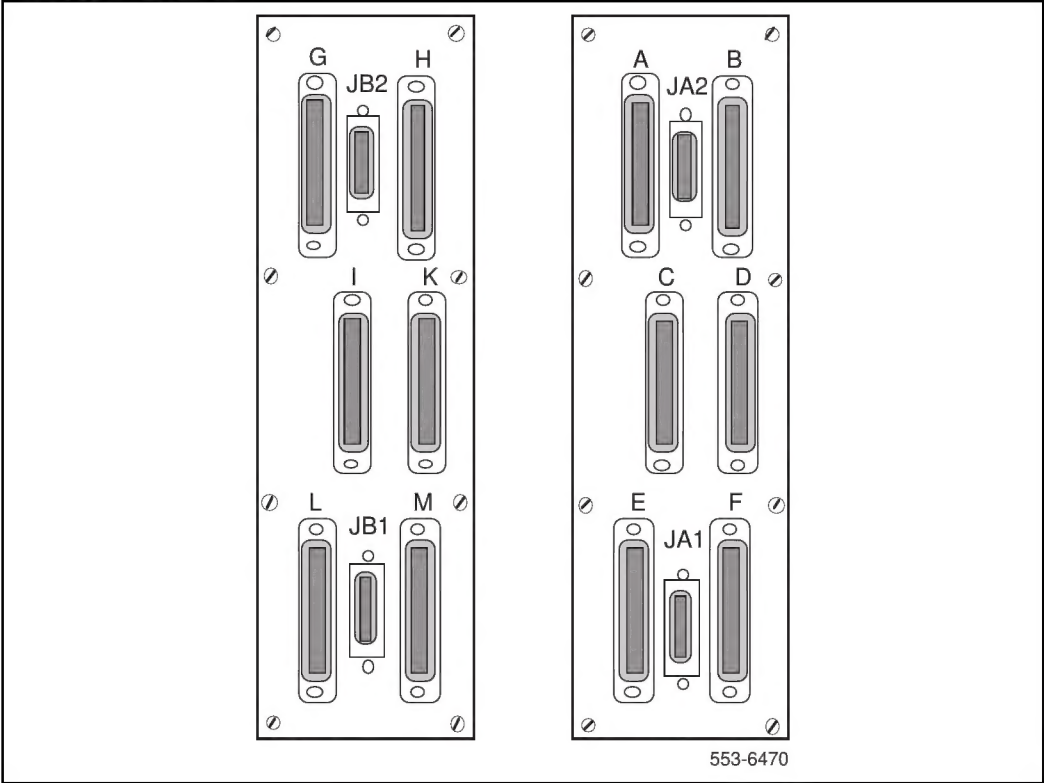
Figure 117**QPC414 Network Card network loops—NT5K10 DLB card to NT5K11 I/O panel connections**

Figure 118
NT5K11 I/O panel



Network loop configurations

Figure 119 shows the module (shelf) configurations for single and dual loops using the QPC414 network card.

Figure 119
QPC414 network loop configurations

